

Nevada region of Cellular One declared: "There are no products and services that NEXTEL can offer that we don't."<sup>86</sup>

## How Large A Market?

As CTIA observed in the study "PCS Predictions and Prescriptions: Highlights from 32 Studies and Reports On the Prospects for PCS," various analysts attribute different market shares to companies under the rubric of "PCS," "cellular," or "ESMR" -- but all agree that the vast wireless market is rapidly expanding.

For example, MCI projects that "within 10 years, a minimum of 10 to 20 percent of phone users, both consumer and business, 'will migrate to a complete wireless service.'" As *Mobile Data Report* observed, "Today's 160 million cordless phone users are prime candidates for such services. 'We believe wireless cordless telephony is a dynamite strategy,'" says Richard Liebhaber, MCI's chief strategy and technology officer.<sup>87</sup> This estimate is consistent with the projections of various analysts, such as Donaldson, Lufkin & Jenrette, which project ten percent of the population will subscribe to "wireless" or PCS by 2003.<sup>88</sup>

Within this broad marketplace, some analysts suggest ESMR companies like NEXTEL will grow by acquiring 15 percent of new "cellular-like" wireless subscribers, at the same time that PCS companies grow by acquiring 35 to 43 percent of similar wireless subscribers.<sup>89</sup> Others, including Merrill Lynch analysts Lynda Runyon and Sandra Birch, have adopted 20 percent as their base case growth figure for ESMRs - a figure which they concede may be conservative "if ESMR emerges as a strong competitor to cellular."<sup>90</sup>

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Options and Control," *Business Wire*, May 26, 1994.

<sup>86</sup>Mary Lynne Vellinga, "Wireless Communications Giants to Battle in California," *The Sacramento Bee*, March 1, 1994.

<sup>87</sup>"MCI to Play Off of Cellular's Flaws in Selling NEXTEL Services," *Mobile Data Report*, June 20, 1994.

<sup>88</sup>"One in 10 Americans Will Subscribe to PCS by 2003," *FinTech Mobile Communications*, August 16, 1994.

<sup>89</sup>"One in 10 Americans Will Subscriber to PCS by 2003," *FinTech Mobile Communications*, August 11, 1994.

<sup>90</sup>Merrill Lynch, *SMR in the United States: A Window of Opportunity*, October 1993, at p.5

It is irrelevant what market share any particular service provider had in past submarkets, since those segments are now submerged in the larger wireless market. These services are now substitutes for each other in the eyes of providers and consumers.

Racotek's 1993 Annual S.E.C. 10-K Report observed that:

The Company believes that seven to nine million of the estimated 38 million mobile workers in the United States are in field service and transportation industries that involve regular use of vehicles and that those workers are the principal potential market for Racotek's mobile data transmission services. However, the market for mobile data services is new and undeveloped. Mobile workers who currently have wireless communications facilities communicate using private dispatch radio, paging systems, private data systems on dedicated frequencies, cellular telephone and SMR voice services. A number of mobile workers have no wireless communications facilities at the present time.<sup>91</sup>

#### **Market Share in the Wireless Marketplace**

As Drs. Besen and Burnett observed in their antitrust analysis of the mobile telecommunications marketplace, the effective capacity of providers in the wireless marketplace is the appropriate measure of market share.

The study concluded that:

- ◆ Market definition from the perspective of technology is too narrow -- as technologies converge, it is no longer appropriate to think of openly competing services as distinct products in distinct markets.
- ◆ For firms operating in multiple areas, Basic Trading Areas are not relevant geographic markets for antitrust purposes as long as companies are not able to discriminate on the basis of price among different geographic areas.

Using the Department of Justice's and Federal Trade Commission's Horizontal Merger Guidelines, Drs. Besen and Burnett found that: **"Even in the most highly concentrated market structure possible under pending PCS rules, the Merger Guidelines would not bar, and might not even warrant investigation of, significant acquisitions of capacity by incumbent cellular operators."**<sup>92</sup>

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<sup>91</sup>*Racotek Annual 10-K Report* at p.2.

<sup>92</sup>Drs. Besen and Burnett, *op cit.* at p.4.

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The Merger Guidelines use the Herfindahl-Hirschman Index (HHI) to measure market concentration, based on summing the squares of the individual market shares of all of the market participants. Thus, in a market with 10 firms, each with a market share of 10 percent, the HHI would be 1000. A market composed of seven firms, with two firms having shares of 25 percent each and the remaining firms having shares of 10 percent each, would have an HHI of 1750. (Each firm with 25 percent contributes 625 ( $25^2 = 625$ ), and each firm with 10 percent contributes 100, hence  $625 + 625 + 5(100) = 1750$ .) In unconcentrated and moderately-concentrated markets HHI increases of 100 points are necessary before competitive concerns may be raised, and in highly-concentrated markets HHI increases of 50 points are necessary before competitive concerns are raised.

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The Merger Guidelines generally conclude that post-merger measures of HHI below 1000 indicate an unconcentrated market, with adverse competitive effects being unlikely. Post-merger HHIs between 1000 and 1800 indicate moderate concentration. Mergers producing HHI increases of less than 100 are unlikely to have adverse competitive effects. Neither of the foregoing examples would require further analysis under the guidelines. Mergers producing increases of more than 100 points may raise competitive concerns, depending on other conditions.

Post-merger HHIs of above 1800 indicate that a market is highly concentrated, although mergers producing an increase in the HHI of less than 50 points are unlikely to have adverse competitive effects. Mergers producing increases of more than 50 points may raise competitive concerns, depending on other conditions. Mergers producing increases in the HHI of more than 100 points are presumed to enhance market power or its exercise, although the presumption may be

overcome by other factors making such exercise unlikely.

Drs. Besen and Burnett calculated the HHIs for the mobile telecommunications marketplace under scenarios in which cellular companies do not acquire additional MHz, as well as ones in which they acquire 10 MHz or 15 MHz. The scenarios also included entry by SMRs. While the scenarios were based upon both the Commission's original and CTIA's proposed licensing schemes, and not the revised plan which allocated 30 MHz to a BTA license, the results are still indicative of an unconcentrated market.

The basis of these calculations is the *effective capacity* of the spectrum available for mobile telecommunications service. While the 170 MHz of bandwidth available for PCS and cellular (120 MHz and 50 MHz, respectively) *could* be used to produce measures of potential market share, a simple measure of bandwidth is not a meaningful measure of the power any individual firm has in the wireless market.

Although each cellular provider does have 25 MHz of spectrum in the markets in which it operates, FCC rules require cellular operators to accommodate their current analog customers. Because cellular carriers will therefore be unable to convert all their spectrum to digital, their spectrum has less *effective capacity* than spectrum that can be used exclusively to provide more spectrum-efficient digital services.<sup>93</sup>

However, even under the Commission's revised allocation plan, and with one SMR in the marketplace (with 10 MHz of spectrum), the following chart shows that the effective capacity of cellular companies would be only 16.33 percent -- far below the 35 percent market share the Merger Guidelines consider the threshold for antitrust inspection.<sup>94</sup>

### Merger Guidelines - HHI Index Example

If two celcos each had 10 MHz of PCS spectrum, and one SMR has a total of 10 MHz of spectrum, the HHI index indicates that the resulting market concentration would be moderate.

| <u>Firms</u> | <u>Bandwidth</u> | <u>Capacity</u> | <u>Share (%)</u> | <u>HHI</u> |
|--------------|------------------|-----------------|------------------|------------|
| Celco1       | 35               | 160             | 16.33            | 266.67     |
| Celco2       | 35               | 160             | 16.33            | 266.67     |
| PCS-A        | 30               | 180             | 18.37            | 337.46     |
| PCS-B        | 30               | 180             | 18.37            | 337.46     |
| PCS-C        | 30               | 180             | 18.37            | 337.46     |
| PCS-D        | 10               | 60              | 6.12             | 37.43      |
| SMR-1        | 10               | 60              | 6.12             | 37.43      |
| Total        | 180              | 980             | 100              | 1620.58    |

Assumptions: That the celcos maintain 10 MHz of bandwidth to serve analog cellular customers, and that digital enjoys a 6-to-1 capacity relationship with analog.

<sup>93</sup>The precise advantage of digital over analog depends in part on the technology involved, and increases in capacity may range from a multiple of 2 to 18. The study relied upon a multiple of 6, and assumed 10 MHz of a cellular operator's bandwidth would remain devoted to analog customers. Besen and Burnett Study at p.37.

<sup>94</sup>The calculations assumed that each firm served all customers within the geographic market.

In fact, as there is more than 10 MHz of SMR spectrum available, and more than one SMR carrier per market, the market concentration may be even less than projected above. For example, if there are four SMR providers in the marketplace, sharing 21 MHz of spectrum, a cellular/PCS company would have 15.3 percent of the market's effective capacity.

### Merger Guidelines - HHI Index Example

If two celcos each had 10 MHz of PCS spectrum, and four SMRs have a total of 21 MHz of spectrum, the HHI index indicates that the resulting market concentration would be moderate.

| <u>Firms</u> | <u>Bandwidth</u> | <u>Capacity</u> | <u>Share (%)</u> | <u>HHI</u> |
|--------------|------------------|-----------------|------------------|------------|
| Celco1       | 35               | 160             | 15.3             | 234.1      |
| Celco2       | 35               | 160             | 15.3             | 234.1      |
| PCS-A        | 30               | 180             | 17.2             | 295.8      |
| PCS-B        | 30               | 180             | 17.2             | 295.8      |
| PCS-C        | 30               | 180             | 17.2             | 295.8      |
| PCS-D        | 10               | 60              | 5.7              | 32.5       |
| SMR-1        | 10               | 60              | 5.7              | 32.5       |
| SMR-2        | 4                | 24              | 2.3              | 5.3        |
| SMR-3        | 5                | 30              | 2.9              | 8.4        |
| SMR-4        | 2                | 12              | 1.1              | 1.2        |
| Total        | 180              | 1046            | 100              | 1435.5     |

Assumptions: That the celcos maintain 10 MHz of bandwidth to serve analog cellular customers, and that digital enjoys a 6-to-1 capacity relationship with analog.

Taking factors other than market concentration into account when considering the competitiveness of the wireless telecommunications market still suggests that the market would continue to function competitively. As the preceding sections indicate, it would be difficult for companies to raise prices anti-competitively because of the rapidly changing nature of wireless services. Similarly, as technologies converge and once-distinct technologies enter into direct competition with other services, the market will only become more competitive with new providers and new services entering all the time.

And as the antitrust analysis demonstrates, the shares possessed by cellular companies -- even after any hypothetical acquisition of PCS spectrum -- fall below the market share threshold for concern under the Department of Justice's Merger Guidelines.

## Conclusion

Summing it all up, as Peter Bernstein, Vice President of Research at Probe Research and Editor of *Wireless for the Corporate User*, has stated: ***"I don't believe there is a purchaser of communications services who believes there isn't a choice in wireless."***<sup>95</sup>

In fact, the information submitted by such petitioners as the Louisiana Public Service Commission does not testify to any significant number of customer complaints, compared to the total volume of cellular subscribers. Indeed, the activities which the Louisiana P.S.C. claims it performs on behalf of consumers appear to have resulted in (1) the imposition of higher charges upon consumers, and (2) the reduction of competition through the exclusion of potential service providers.<sup>96</sup>

Likewise, such actions as the prohibition of service and equipment packaging (which the Commission, the Department of Justice, and the Staff of the Federal Trade Commission all concluded was pro-competitive and beneficial to consumers), hardly testify to the advantages state regulation renders consumers. Consumers appear to pay both higher service rates and higher equipment rates as a result of such state action.

It is ironic that some states have advanced the proposition that the consumer is or will be helped by the reduction of choice (among carriers, as well as among rate plans) through tariff and entry regulations. Regimes have been suggested which are inconsistent with a competitive marketplace, threatening to limit entry, delay technological progress and disrupt service innovation.

The Commission should reject these proposals, and instead recognize and foster wireless competition by preempting state regulation of the Commercial Mobile Radio Services.

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<sup>95</sup>Jamie Wexler, "AT&T/McCaw Restrictions a Mere Formality," *Network World*, July 25, 1994, at p.33.

<sup>96</sup>See e.g., Petition on Behalf of the Louisiana P.S.C., filed August 9, 1994, at pp.15-16 (rate plan applications) and pp.20-21, 32 (exclusion of companies from operating in Louisiana).

Congress and the Commission have acted to ensure the establishment of a competitive telecommunications environment, by allocating new resources to the industry and mandating regulatory parity.

This study has demonstrated that (1) the services and products at issue are substitutes for each other in the eyes of both providers and consumers, (2) entry into the marketplace is increasingly easy, (3) providers and prospective providers are numerous, and (4) no one firm has a large market share based upon its effective capacity.

This situation conforms with the economic definition of a competitive market structure -- it should not be distorted by the imposition of unnecessary state rate and entry regulations.<sup>97</sup>

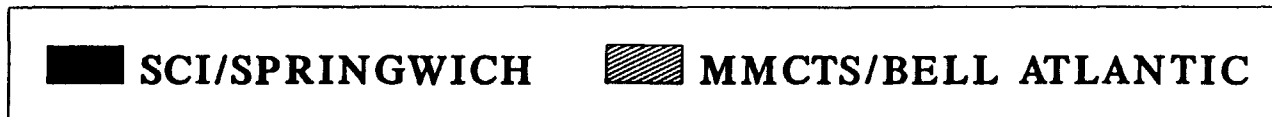
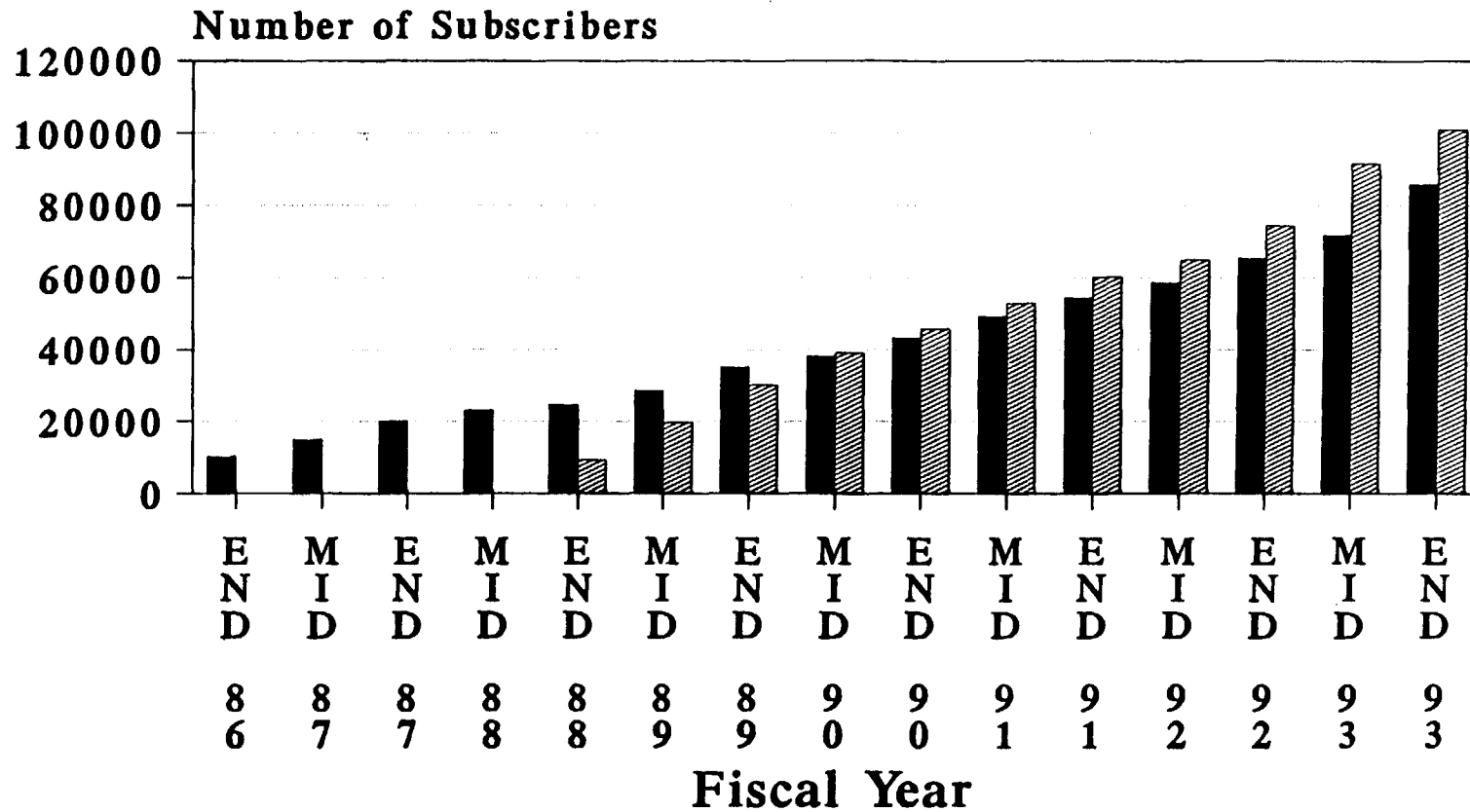
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<sup>97</sup>See Besen, "The Cellular Service Industry: Performance and Competition," November 1992, at p.4, n.9 ("Economists call a market structure competitive when entry is easy, firms are numerous, and no firm has a large market share.").





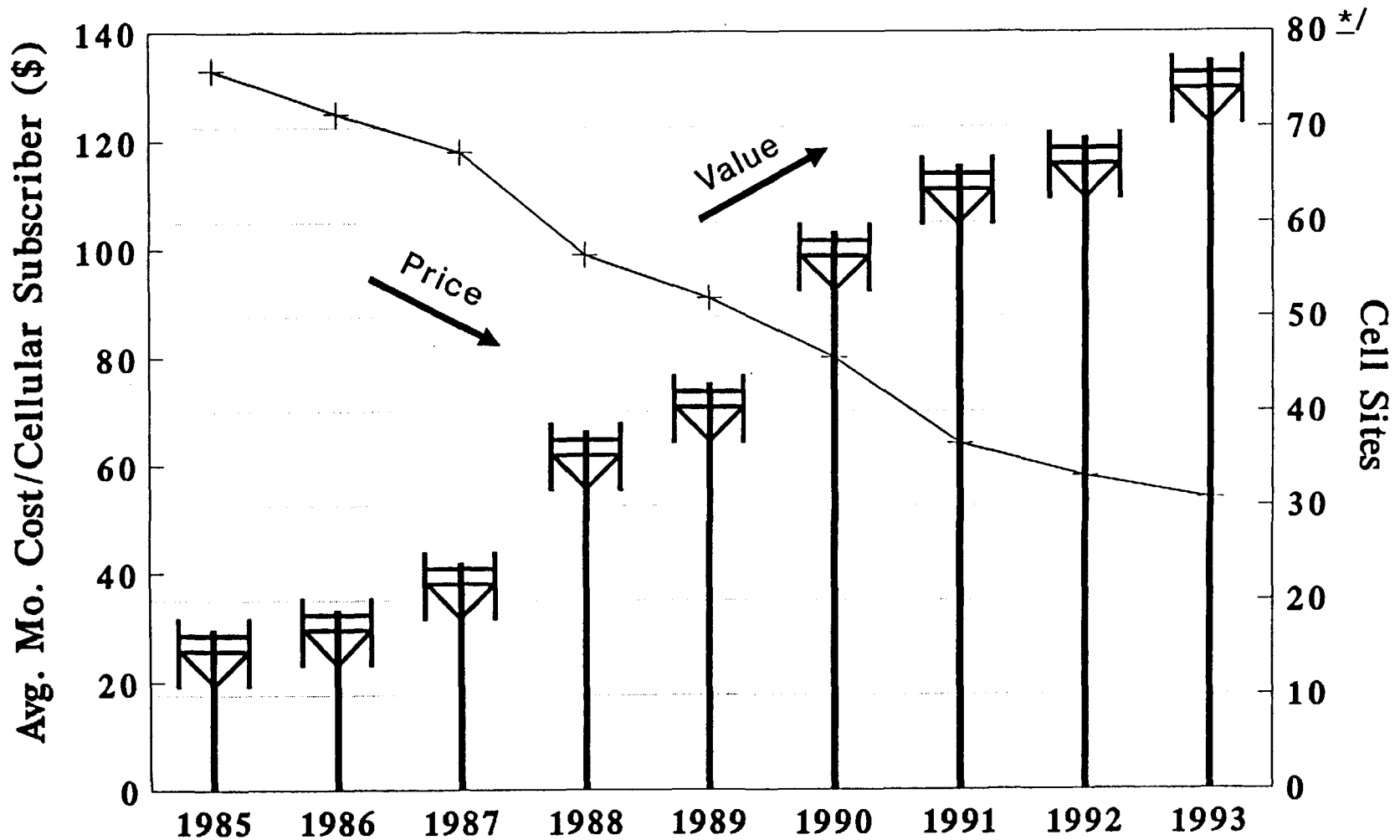
# Changes in Subscriber Volume Connecticut Cellular Market





# Cellular Service Value

## Springwich Cellular Limited Partnership



\*/  
 This exhibit does not reflect cell sites recently constructed. The current number of cell sites is now in excess of 90.



**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20544**

Petition of the Connecticut Department  
of Public Utility Control to Retain  
Regulatory Control of the Rates of  
Wholesale Cellular Service Providers  
in the State of Connecticut

PR File No. 94-SP4

September 19, 1994

**AFFIDAVIT OF MARK W. BLUEMLING**

STATE OF CONNECTICUT)

COUNTY OF NEW HAVEN )

ss.: New Haven

MARK W. BLUEMLING, being duly sworn, deposes and says:

1. I am Vice President -- Finance for SNET Cellular, Inc. I make this affidavit in response to the Petition of the State of Connecticut Department of Public Utility Control ("Connecticut DPUC") to the Federal Communications Commission, dated August 8, 1994, seeking to retain regulatory control over the rates of wholesale cellular service providers in State of Connecticut.

2. Springwich Cellular Limited Partnership ("Springwich") is a limited partnership whose general partner is SNET Springwich, Inc. SNET Springwich, Inc. is a wholly owned subsidiary of SNET Cellular, Inc., which in turn is a wholly owned subsidiary of the Southern New England Telecommunications Corporation ("SNET").

3. I am responsible for, among other things, the overall financial operations of SNET Cellular, Inc., as well as Springwiche. I am involved with developing and recommending appropriate wholesale pricing for Springwiche cellular services.

4. Springwiche is the licensed B-side cellular carrier in Connecticut and in the greater Springfield area of Massachusetts. Springwiche resells its cellular telephone service through approximately 14 resellers, one of which is SNET Mobility, Inc., another wholly-owned subsidiary of SNET, which provides service under the trade name "Linx."

5. The growth of cellular service on Springwiche's network has been significant. For example, ahead of schedule, Springwiche installed a state-of-the-art digital switch as part of its plan to convert its cellular network to a full digital system. In 1991, again earlier than anticipated, Springwiche added a second digital switch to its network. From June 1992 through August 1994, the resellers using Springwiche's network have increased subscribership by end users by 100%. In the immediate future, given continued reseller customer growth, additional significant investment is planned. This includes another new switch, the deployment of additional micro-cells, to accommodate the increasingly portable demands of cellular subscribers, and the continued conversion to digital technology.

6. Springwiche has faced stiff competition in the wholesale cellular market. The level of competition in the wholesale cellular market intensified in 1992 when Bell Atlantic Enterprises International, Inc. ("Bell Atlantic"), a multi-state

carrier serving a population area of roughly 30 million, purchased Metro Mobile, the Band A non-wireline carrier in Connecticut. Bell Atlantic is a major market force in wireless telecommunications and an aggressive competitor. Last month, in response to a wholesale rate reduction by Bell Atlantic and to changing market conditions, Springwich announced a 35 percent decrease in monthly wholesale rates for cellular numbers. As the wireline carrier, Springwich initially held a 100 percent market share in 1985. By year-end 1989, Springwich's market share was down to 54 percent. By the end of 1992, after Bell Atlantic's acquisition of Metro Mobile, Springwich's market share was approximately 47 percent, and by the end of 1993, its market share had fallen to approximately 46 percent. The constantly shifting market shares and declining wholesale rates of the wholesale carriers are clear evidence of vigorous competition in the wholesale cellular market.

7. Springwich's competitive strategy has been to encourage the resellers to expand their customer bases and thus to purchase increasing quantities of wholesale cellular service from Springwich. Springwich has sought to implement this policy in several ways. Springwich's Connecticut Tariff as filed with the Connecticut DPUC currently provides for various volume and length of service discounts. Those discounts have been included in Springwich's Connecticut Tariff for years, and were designed by Springwich, and approved by the Connecticut DPUC, as an incentive to the resellers to expand their customer bases aggressively.

8. Springwich's efforts to assist its resellers to grow have gone far beyond tariff pricing incentives. Springwich has also developed programs designed affirmatively to assist resellers to achieve success and has worked closely with several of its resellers to help them surmount various financial difficulties. These efforts are described below.

#### Reseller Assistance Programs

9. Springwich has provided various forms of support to its resellers to help them grow their businesses, including, but not limited to, discounted roaming charges and promotional and permanent rate reductions.

10. Springwich has also implemented programs designed to assist the reseller to gain new accounts. Springwich provides at no cost to the reseller promotional materials, including materials imprinted with the reseller company name and telephone number if the reseller obtains minimum net activations. Further, cellular numbers with 400 minutes of free peak airtime per month are provided to the resellers to permit them, without cost, to demonstrate the quality and convenience of Springwich service to potential users.

11. In addition to the formal programs designed to assist the resellers, Springwich has often provided aid to its resellers on an ad hoc basis. For example, Springwich has negotiated extended payment schedules with resellers. In one instance, Springwich guaranteed a reseller's bank debt.



### Reseller Complaints

12. Surprisingly, one of the resellers that most benefitted from Springwiche's willingness to accommodate reseller financial constraints alleged before the Connecticut DPUC that Springwiche had engaged in unfair and anticompetitive tactics, and that such actions necessitated continued regulation of the wholesale carriers by the Connecticut DPUC. The allegations made by this reseller, however, are at best misleading and at worst are flatly untrue.

13. As is explained in more detail in the Affidavit of Arthur H. Paquette, the testimony of this reseller, Escotel Cellular, Inc. ("Escotel") before the Connecticut DPUC was not an accurate portrayal of Springwiche's experience with Escotel. Springwiche, Escotel's largest creditor, had attempted over the course of more than one year to resolve a very large unpaid balance owed by Escotel, and on many occasions during that period Escotel failed to make payments it had agreed to on a timely basis.

14. Among the accusations leveled against Springwiche by Escotel is that Springwiche disclosed proprietary reseller business information to its retail affiliate, doing business under the trade name Linx. There is no basis for this claim. Such activity would be contrary to SNET's "Personal Communications Group Guidelines for Ethical Behavior" which provides:

All conversations between customers, all data transmissions and other non-voice communications are private. . . . Privacy extends to information about our

communications arrangements with customers. This includes billing records, equipment, and circuits. You may not disclose such information to any unauthorized person or use it for any non-business purpose.

The resellers are customers of Springwich, and I have impressed upon employees reporting to me the need to maintain the confidentiality of any proprietary reseller information that Springwich possesses.

15. This said, the amount of proprietary reseller information possessed by Springwich is minimal. Springwich does not know, and cannot learn, the identity of the reseller's customers. Springwich possesses only a cellular phone number (which is not listed in any phone directory) and a corresponding Electronic Serial Number.

16. Contrary to the testimony from Mr. Escobar, president of Escotel, Springwich does not require resellers to disclose, and Springwich does not possess, the resellers' quarterly or yearly business plans, pricing policies, or planned promotional activities. Springwich does ask its resellers to provide a yearly estimate, and appropriate updates, of the total number of new accounts each expects to add during the next year to permit Springwich to plan necessary network expansion and to address other wholesale requirements, such as establishing appropriate inventories of new telephone numbers. This information, however, in accord with SNET policy, is not provided to SNET's retail affiliate.

17. Escotel's allegations that Springwich suggests to resellers that higher retail prices be maintained are false, and,

in addition, are economically irrational, since higher retail prices for Springwich's service would lead end users to prefer the service from the competing wholesale carrier, Bell Atlantic Metro Mobile. Similarly, Springwich does not attempt to dictate to resellers that they target a particular market segment or group of end users and has never attempted to dissuade a reseller from pursuing a particular market segment or group of end users.

18. In fact, to the extent any entity has sought to learn and profit from information possessed by Springwich it is Escotel. I understand that employees handling Escotel's account on behalf of Springwich have been asked on many occasions by Mr. Escobar to disclose the retail rates of other Springwich resellers, including the rates charged by Linx. In each case, Mr. Escobar has been told that that information, if known, is considered by Springwich to be proprietary and could not be revealed to him or any other reseller.

19. Escotel's allegations that Springwich required its resellers to execute onerous confidentiality agreements and to agree to use only Springwich wholesale cellular service are misleading. Escotel, for example, was never required to execute a confidentiality agreement with Springwich, yet continued to receive Springwich services. The only confidentiality agreements Springwich signed with any of its resellers arose in the context of lock-box or other security agreements, and in those very few instances the confidentiality provisions were included for the protection of the reseller's financial information and status.

Moreover, all confidentiality agreements executed by Springwich and its resellers bind Springwich as well as the reseller.

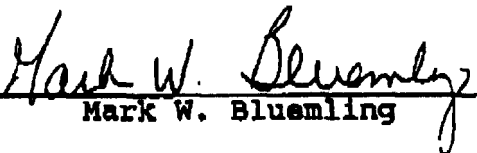
20. At no time has Springwich sought to prevent resellers from appearing before or petitioning the Connecticut DPUC, as Escotel has suggested. Indeed, resellers have appeared before the Connecticut DPUC in many proceedings to make their views known.

21. Nor is there merit to Escotel's claim that Springwich somehow restricts reseller use of Bell Atlantic Metro Mobile's cellular service. In fact, the agreements executed by Springwich and Escotel expressly acknowledge that Escotel may have customers on both switches. See, e.g., Security Agreement, dated May 21, 1990, at ¶ 3e, attached to the Affidavit of Arthur H. Paquette. I understand that most of the fifteen resellers currently operating in Connecticut, including Escotel, resell both Springwich and Bell Atlantic Metro Mobile cellular service.

22. Escotel further alleges that Springwich's policy for providing credits for poor quality calls is somehow unfair. The Springwich Reseller Guide is plain -- "[i]f the Reseller deems it appropriate to adjust an end users [sic] bill because of an apparent network problem he may request a credit . . . . Reasonable credit will be given to the Reseller only when the credit is passed on to the Reseller's end user." Escotel apparently believes that it should receive a blanket credit from Springwich for any call it deemed to be defective. Escotel has sought special treatment, which was rejected. The requirements

of Springwich's policy for issuing credits are applied to all resellers with equal force.

23. Lastly, Escotel asserts that Springwich, as a matter of course, grants preferential treatment to SNET's retail cellular affiliate, Linx, thereby affording it some competitive advantage over unaffiliated resellers. This is also untrue. Springwich's relationship with all its resellers, including Linx, is governed by Springwich's Connecticut Tariff. The Tariff sets forth the terms and conditions under which Springwich is to provide wholesale cellular service to the resellers. The terms of the Tariff do not vary by reseller, setting forth the rates that may be charged, the cellular services that are to be offered, and the notice that Springwich must provide to the resellers of any rate changes or special programs it plans to offer. (Springwich was required to give 30 days notice of any changes, this has recently been reduced to 5 days.) Apart from one isolated instance in nearly a decade of operations, where Linx inadvertently received notice of a special program prior to other resellers, Springwich has treated each reseller identically in accord with the terms of its Tariff.

  
Mark W. Bluemling

Sworn to before me this  
19th day of September, 1994.

  
Commissioner of the Superior Court



# SCI/SPRINGWICH PARTNERSHIP WHOLESALE TARIFF CHANGES

| <u>Effective<br/>Date</u> | <u>Type</u>              | <u>Docket<br/>Number</u> | <u>Description</u>                                                                                                                                                                                                                                                             |
|---------------------------|--------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01/16/85                  | Original                 | 84-08-16                 | Original tariff approval                                                                                                                                                                                                                                                       |
| 06/14/85                  | Tariff                   | none                     | 1) Allow for temporary suspension of cellular number upon request of end-user.<br>2) Reduce minimum usage requirement from 150 to 100 minutes per month.<br>3) Text change to allow directory listings to be accepted from the end-user rather than the subscriber (reseller). |
| 08/02/85                  | Effective Rates          | none                     | Reduce monthly cellular number charge by \$7.00 for each tier.                                                                                                                                                                                                                 |
| 05/23/86                  | Tariff & Effective Rates | 86-03-12                 | Introduction of Attempt Charge for incomplete calls of less than one minute duration                                                                                                                                                                                           |
| 07/01/86                  | Tariff                   | none                     | Revised header and text, all pages, to say SNET Cellular, Inc.                                                                                                                                                                                                                 |
| 07/21/86                  | Tariff & Effective Rates | none                     | 1) Reduce charge for Speed Calling from \$2.50 to \$1.25 per month.<br>2) Introduce three Custom Calling features:<br>Call Waiting, Call Forwarding, and Conference Calling.<br>3) Introduce initial Period Charge associated with Call Waiting and Call Forwarding features.  |
| 07/06/87                  | Tariff                   | none                     | Revision to CSGA Map                                                                                                                                                                                                                                                           |
| 10/13/87                  | Tariff                   | none                     | Revision to CSGA Map                                                                                                                                                                                                                                                           |

| <u>Effective<br/>Date</u> | <u>Type</u>                    | <u>Docket<br/>Number</u> | <u>Description</u>                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|--------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 03/30/88                  | Tariff &<br>Effective<br>Rates | 87-10-23                 | 1) Flexibility to offer fractional minute billing.<br>2) Change in minimum/maximum for basic service and range of rates for optional features.<br>3) Two additional rate bands for cellular numbers and usage.<br>4) Change in range of rates in the Attempt Charge.<br>5) The offering of discounts on cellular numbers and usage.                                                                                                 |
| 05/11/88                  | Promotion                      | none                     | For three months:<br>1) Suspend number activation or service restoral charge.<br>2) Reduce rates by \$6 per month.<br>3) Suspend "Hot Line" optional feature rate and charge.                                                                                                                                                                                                                                                       |
| 05/15/89                  | Promotion                      | none                     | Promotion A: For 3 Months,<br>1) Suspend Service Activation Charge<br>2) Reduce Cellular Number Rates (band 1-6) by \$3 per month/number, for all numbers in service.<br>Promotion B: For 7 Months,<br>1) Peak Period Usage Rates credited with 100 peak minutes (@ \$.33/min) for each new number that remains active 6 months.<br>2) Cellular Number Rates (band 1-6) reduced by \$3 per month/number, each new number activated. |
| 06/02/89                  | Tariff                         | 89-05-11                 | Discontinue "Speed Call" optional feature due to new type of switch installation.                                                                                                                                                                                                                                                                                                                                                   |



| <u>Effective<br/>Date</u> | <u>Type</u>        | <u>Docket<br/>Number</u> | <u>Description</u>                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|--------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 03/05/90                  | Promotion          | none                     | For ten months (thru 12/31/90):<br>Reseller receives \$66 credit per<br>net activation in month activated;<br>additional \$99 per net activation,<br>if number still active six months<br>later.                                                                                                                                                                                  |
| 07/01/90                  | Effective<br>Rates | none                     | 1) A \$1.00 reduction in the cellular<br>number rates per month per number<br>for all categories.<br>2) A \$.01 reduction in the peak and<br>off-peak usage rates per minute<br>for all categories.                                                                                                                                                                               |
| 12/19/90                  | Tariff             | 90-11-10                 | Add Litchfield and Windham Counties<br>(RSAs) to service area.                                                                                                                                                                                                                                                                                                                    |
| 12/31/90                  | Promotion          | none                     | For three months:<br>Suspend Number Activation or<br>Service Restoral charge and<br>"Hot Line" optional feature rate<br>and charge.                                                                                                                                                                                                                                               |
| 03/20/91                  | Tariff             | 91-02-12                 | Lower monthly minimum usage billing<br>requirement from 100 to 75 minutes<br>per cellular number.                                                                                                                                                                                                                                                                                 |
| 04/15/91                  | Promotion          | none                     | 1) Suspend Number Activation or<br>Restoral Charge for 3 months.<br>2) \$96 credit for each new<br>activation spread over 3 month<br>at \$32/mo.<br>3) \$96 credit per net number of<br>activations during 6 month<br>period (4/15-10/15) provided<br>cellular number remains<br>active for 6 months.<br>4) Suspend Hot Line Rate and<br>Charge for period 4/15/91 -<br>12/31/91. |